FINDING OF NO SIGNIFICANT IMPACT

Future Management of Seven Earthen Dams

Florissant Fossil Beds
National Monument

In accordance with the provisions of the National Environmental Policy Act (NEPA) of 1969 and the regulations of the Council on Environmental Quality (40 CFR 1508.9), the National Park Service (NPS) prepared an Environmental Assessment (EA) which evaluated the potential environmental impacts for three alternatives that address the future management of seven earthen dam locations at Florissant Fossil Beds National Monument (FLFO). The EA, dated August 7, 2001, was available for public review and comment beginning on August 10, 2001, and the review period was extended to September 14, 2001.

The purpose of this decision document is to affirm which course of action (alternative) the NPS intends to follow and record a finding of no significant impact (FONSI) pursuant to CEQ regulations for implementing NEPA. This FONSI is a summation statement of the preferred alternative, alternatives considered, the basis for decision, the measures to minimize environmental harm, and the public involvement in the decision making process.

A complete description of the three alternatives, affected environment, environmental consequences, and mitigating actions are contained in the EA. Hardcopies of the EA have been mailed to public libraries in Colorado Springs, Woodland Park, and Florissant, Colorado. An electronic version of the EA is available to download on the NPS website at www.nps.gov/flfo. You may also contact Florissant Fossil Beds National Monument at (719) 748-3253 and provide your e-mail address to be sent the electronic version.

After a careful review of resource and visitor impacts and public comments, the selected alternative is the restoration of disturbed lands by removal of all seven earthen dams, involving restoration of the natural contours and hydrologic and geomorphic processes in the channels, and re-vegetation of the associated upland and wetland areas. This alternative was the NPS preferred alternative and has been selected for implementation (with the mitigation measures integral to it) because it has the greatest potential to meet FLFO goals and objectives and resolve the need for action while at the same time protecting and minimizing impacts to FLFO resources.

PREFERRED ALTERNATIVE

The NPS's preferred alternative for management of the dams is the same as the alternative selected for implementation; this alternative is viewed as the alternative which would best fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical, and other factors.

The preferred alternative is the restoration of the disturbed lands associated with the seven dams ranked highest in priority by the 1997 study/evaluation. The action will include removal of the seven dams,

restoration of the natural contours and hydrologic and geomorphic processes in the drainages/channels, and re-vegetation of the associated upland and wetland areas. Seven earthen dams (#9, #14, #31, #32, #47, #34, and #39) would be removed, requiring the re-distribution of approximately 16,155 cubic yards of material.

Treatment at dams #9, #14, #31, and #32 would be accomplished by first pumping the water out of the impoundments as needed to eliminate standing water and to provide for safe site conditions during embankment removal. NPS personnel would stake the upstream disturbance limits after these impoundments have been drained. Before dam removal activities commence, silt fence would be placed within five feet of the downstream toe of the dam across the entire width of the drainage bottom. The contractor would remove and direct-haul the embankment and other fill materials for dam #9, #14, #31, and #32. The materials would be placed according to NPS plans into the upland areas they were originally borrowed from to blend in with the adjacent slopes and surrounding topography. NPS personnel would indicate the cut and fill areas in the field and any unforeseen excess material would be placed where designated by NPS personnel to blend inconspicuously into adjacent upland areas. The borders of any areas having unforeseen material deficits would be graded to blend inconspicuously into adjacent upland areas. Treatment at dams #47, #34, and #39 would proceed in a similar manner to the treatment at the other four dams, except that no pumping of surface water is anticipated.

ALTERNATIVES CONSIDERED

As required by NEPA, a range of alternatives was considered in the EA, including reasonable alternatives, unreasonable alternatives, and alternatives considered but rejected. The alternatives were developed with environmental resources as the primary determinant. Other factors included in the development of alternatives were agency and environmental constraints, policies in NPS planning documents and legislation, and site characteristics. The EA described three alternatives carried forward for analysis that, in accordance with CEQ regulations, cover the full spectrum of alternatives: Alternative 1 *(No Action)*, Alternative 2 *(Maintenance)*, Alternative 3 *(Restoration of Disturbed Lands by Removal of Seven Earthen Dams)*.

Alternative 1, the “no action” alternative, was continuing with the present course of action. It did not imply or direct performing maintenance or removing the seven earthen dams or restoring any disturbed lands. No action was the continuation of existing conditions and activities without a particular planning context.

Alternative 2 was the retention of all seven earthen dams and implementation of repeated maintenance activities that would be required to prevent their being breached by headcuts, overtopped, or failing in some other fashion. The dams are composed of loose sand and gravel, are sloughing and leaky, exhibit various stages of disrepair, and have exceeded their expected life spans without maintenance; as such, if these structures were to be retained, they would need to be upgraded to make them compliant with modern engineering design standards for impoundments and would need to be accessed repeatedly for continuous maintenance.

Alternative 3 was the restoration of disturbed lands by removal of all seven earthen dams, involving restoration of the natural contours and hydrologic and geomorphic processes in the channels, and re-vegetation of the associated upland and wetland areas. The work would be performed in a single access event.

The need for action results from the effects of the earthen dams interrupting natural drainage processes and over time altering the natural hydrologic and geomorphic processes of all major and most minor drainages at

FLFO. As a result the existence of the earthen dams runs contrary to the mission of FLFO as they pose an ongoing threat to the natural landscapes, inhibiting natural processes and scenic beauty, and altering the natural occurrence and function of wetlands, floodplains, and riparian areas. The aged structures are also a threat to FLFO natural resources due to the risk posed from inevitable breach and/or failure and resultant flooding, unnatural patterns and accelerated levels of erosion, and sedimentation of downstream wetlands.

To resolve the need for action, the goals/objectives of future management actions were to (1) meet NPS regulations, policies, and guidelines, (2) meet FLFO's mission and management plans, (3) minimize the past, present, and future effects of the seven earthen dams on FLFO resources.

The criteria used in selecting an alternative included the degree of potential for each alternative relative to the following: meet FLFO goals and objectives and resolve the need for action, protect and minimize impacts to FLFO resources, relate to other FLFO planning projects, result in no potential conflicts with other environmental laws/policies, achieve consistency with NEPA Sections 101 and 102(1). The criteria were weighted in this order. Topics of concern identified during scoping and evaluated in the EA included floodplains and wetlands, vegetation, soils, wildlife, and visitor experience.

The dams would continue to deteriorate and eventually fail under Alternative 1 and, depending on the timing and nature of the failure, significant erosion, sediment transport, and loss of wetland habitat would result downstream. Vegetation impacts would include scouring of plants adjacent to the stream channel, burial of plants in areas of deposition, replacement of existing plant communities with early succession communities, and the introduction of noxious weeds in affected areas. Additionally, altered stream channel geometry and a redistribution of sedimentary materials over large downstream area, loss of existing atypical wetland and aquatic wildlife habitats, and significant alteration of downstream habitats would result. Visitors would continue to see unnatural and visually obtrusive structures in an otherwise pristine-looking montane ecosystem, although the pleasing pond behind one of the dams would be retained. Eventual failure of the dams would greatly diminish the aesthetic value of downstream areas and would limit visitor access to those areas.

Alternative 2 would retain existing constraints on hydrology, erosional and depositional processes, and wetland functions and the persistence of altered plant communities and existing atypical habitats adjacent to the dams. Additionally, existing altered patterns of erosion and sediment deposition would continue and the negative and positive impacts of the dams on visitor experience that currently exist would be retained. High intensity storms and floods exceeding the dam design criteria could breach the dams, cause dam failure, and result in the same impacts to vegetation, soils and stream channel geometry, habitats, and wildlife as in Alternative 1. Visitors would continue to see unnatural and visually obtrusive structures in an otherwise pristine-looking montane ecosystem, although the pleasing pond behind one of the dams would be retained. Breach and/or failure of the dams would greatly diminish the aesthetic value of downstream areas and would limit visitor access to those areas.

Alternative 3 reclamation efforts would re-establish natural hydrology, erosional and depositional processes, and wetland functions to the highly altered/disturbed landscapes at the seven dams. Some vegetation in construction areas would be temporarily eliminated and the planned re-vegetation of these areas with native plants and the measures that would be taken to avoid introduction of noxious weeds would allow the project area to be restored with vegetation characteristic of the area prior to construction of the dams, though high intensity storms over the initial years following completion of project activities could result in some degree of failure of restoration efforts. Some soils in the construction areas would be temporarily compacted and the soil structure would be destroyed in other areas; these impacts would be mitigated by disking or ripping

compacted soils and by application of salvaged topsoil. Some species would be the temporarily displaced during construction and some insects and rodents may be lost. Atypical habitats would be replaced with habitat typical of other intermittent stream drainages in the area. Temporary local adverse impacts to visitor enjoyment would result from the construction activities and limitations on access to those areas; these adverse impacts would be mitigated by the educational value of interpretive signs and exhibits.

Alternatives 1 and 2 jeopardize park resources and have no to little potential to meet FLFO goals and objectives and resolve the need for action. These alternative are not harmonious with other FLFO planning projects and both create some conflict with NEPA Section 101 by creating a risk of environmental degradation through their inherent result in creating unnatural systems and if/when the dams should breach/fail.

Alternative 3, with the mitigation measures integral to it, has been selected for implementation because it has the greatest potential to meet FLFO goals and objectives and resolve the need for action while at the same time protecting and minimizing impacts to FLFO resources. This alternative is harmonious with other FLFO planning projects, results in no potential conflicts with other environmental laws/policies, and is fully consistent with NEPA Sections 101 and 102(1). Adverse environmental impacts that could occur are short term and minor to moderate in effect and will be mitigated through the measures integral to the alternative.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which is guided by the Council on Environmental Quality (CEQ). The CEQ provides direction that "[t]he environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101:

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings;
- attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
- enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The preferred alternative is the environmentally preferred alternative as overall, the preferred alternative would result in long term beneficial impacts to FLFO resources and visitor use and experience and more fully meet criteria 1-6 above. This alternative best promotes the national environmental policy expressed in NEPA; results in the least damage to the biological and physical environment; and best protects, preserves, and enhances historic, cultural, and natural resources. In line with its mission and NPS policies, and in order to fulfill the trust responsibilities related to park resources at FLFO, NPS seeks to remove these structures which have altered natural geomorphic processes, have resulted in unnatural patterns and accelerated levels of erosion, and have impacted the natural structure and function of natural resources at the Monument.

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

***Impacts that may be both beneficial and adverse**:*
The preferred alternative will not impact the following: air quality; farmland soils classified as prime or unique; paleontological resources; listed threatened, endangered, or rare species, species of concern, or designated critical habitat; natural soundscapes; refuge lands and wilderness areas; Wild and Scenic rivers; unique natural resources; national natural landmarks; water resources (other than wetlands) including sole or principal drinking water aquifers; ecologically significant or critical areas; rare or unusual vegetation (old growth timber, riparian, alpine, etc.); unique ecosystems, biosphere reserves, and World Heritage Sites; unique or important wildlife and wildlife habitat; unique or important fish and fish habitat; energy resources including natural or depletable resource requirements and conservation potential; cultural, archaeological, or historic resources; the socioeconomic environment including environmental justice.

The range of impacts of the preferred alternative includes impacts to vegetation; soils and topography; floodplains and wetlands; wildlife; and visitor use and experience. However, these impacts will be adverse and short-term and minor to moderate in intensity. Long-term impacts to these same resources will be beneficial and moderate in intensity.

All relevant, reasonable, and practical mitigation measures that could improve the selected alternative's action and avoid, minimize, or eliminate environmental impacts were integrated into the alternative where it was feasible to do so. The estimated costs for the implementation of the mitigation measures integral to the selected alternative were included in the overall cost estimate for the alternative; therefore, the mitigation measures have been adopted and will be implemented. Mitigation measures discussed cover the range of impacts of the selected alternative.

There will be some temporary disturbance to soils, topography, and vegetation associated with accessing the dams and dam removal. Impacts in these areas will be adverse, short-term, and of minor to moderate intensity. Accessing the dams using existing FLFO roads and trails will minimize disturbance to vegetation. Approximately ten ponderosa pines will be removed for equipment access. Disturbance to vegetation will be minimized by restricting access as much as possible to previously disturbed areas. On those dams not adjacent to roads or trails, passage across relatively undisturbed land will be required. The selected alternative will require only one time access and not repeated access through access routes, and the contractor will minimize travel on the access routes and will be required to minimize disturbance to the access routes by brushing, disturbing, or removing vegetation only where necessary for equipment passage. Generation of dust from construction activities will be minimized through the use of a dust palliative. Disturbed areas will be hand raked to eliminate heavy equipment tracks and scars. Re-vegetation of access routes will also occur so as to blend in with native vegetation. The contractor will remove and direct-haul the embankment and other fill materials to be placed into the upland areas they were originally borrowed from to blend in with the adjacent slopes and surrounding topography. NPS personnel will indicate the cut and fill areas in the field and any unforeseen excess material will be placed where designated by NPS personnel to blend inconspicuously into adjacent upland areas. The borders of any areas having unforeseen material deficits would be graded to blend inconspicuously into adjacent upland areas.

Vegetation impacts and potential impacts to soils (e.g. compaction and erosion) will be minimized by stockpiling topsoil; returning topsoil to locations as near to its original location as possible; and where appropriate scarifying, mulching, and seeding and/or planting with species native to the immediate area. There would be some mortality resulting for the existing plant communities in the project areas, and removal of the seven dams will temporarily eliminate some vegetation over an area of about fifteen acres. Ecotypes adapted to environmental conditions similar to FLFO will be used where available. Construction activities will temporarily compact soils over approximately one half acres; compaction will be mitigated by mechanical means (e.g., disking, ripping, etc) when necessary. Re-vegetation efforts will strive to reconstruct the natural spacing, abundance, and diversity of native plant species, though high intensity storms over the initial years following completion of project activities could result in some degree of failure of restoration efforts. In an effort to avoid introduction of exotic plant species, no imported topsoil, hay bales, irrigation or fertilizer will be used, and construction equipment will be decontaminated prior to being used at FLFO. Upland topsoil will be salvaged where possible to hasten rehabilitation of soil structure when it is not contaminated with weedy species. Salvaged topsoil will be stored for as little time as possible, and in as shallow a pile as possible. Seedbeds will be prepared in such a way that the soil would be loose enough for seeds to sprout and penetrate the soil, and yet firm enough to prevent the soil from washing or blowing away. Highly compacted subsoil will be scarified to a depth of 6 to 12 inches before covering with topsoil to allow for root penetration as vegetation develops. Minimum topsoil depth will be four-to-six inches. After broadcasting seeds, the area will be immediately hand raked to loosely cover the seeds. In addition to seeding, any salvaged native plants will be restored when feasible to increase the rate of successful vegetation establishment and to provide a more diverse and natural looking landscape by providing mature seed plants.

There will be some temporary disturbance to floodplains and wetlands associated with the dam removals. Impacts in these areas will be adverse, short-term, and of minor to moderate intensity. These impacts will primarily result from the disturbance of soils and sediments by construction equipment. While largely controlled by the planned use of erosion mitigation measures, such as silt fences adjacent to water bodies, there could be some temporary increases in suspended sediments in the streams during intermittent periods of flow. If appropriate, salvage and storage of wetland topsoil will be similar to that of upland topsoil. Any soil removed from areas currently under the impoundment areas of the dams will be salvaged and used as a wetland topsoil layer for any required reclamation of the wetland/wet-meadow complex to take advantage of the soil's rich and diverse seed bank of native wetland species. Seeding of wetland reclamation sites should not be necessary. However, wetland areas to be transplanted may be deconsolidated by disking, ripping, plowing, or tilling as necessary to encourage plant establishment. If necessary, the wetland community growing in the ditch associated with Dam#32 would be carefully removed, including the topsoil down to about 6 to 18 inches, and stored for later use as transplant material in the reclaimed wetland area(s).

There will be some temporary disturbance to wildlife associated with the dam removals. Impacts in this area will be adverse, short-term, and of minor intensity. Construction activities will temporarily displace some species, but they will be expected to return after revegetation. Insects and small rodents might suffer some mortality. Construction activities will alter available habitat in the project areas for some species. The dams currently provide wetland and aquatic habitat that will be replaced with habitat typical of other intermittent stream drainages in the area. Wildlife dependent on the existing artificial wetland and aquatic habitats created by the dams will be replaced with species associated with natural intermittent stream drainage habitat.

There will be some temporary disturbance to visitor use and experience associated with the dam removals. Impacts in these areas will be adverse, short-term, and of minor intensity. The project area will be closed to visitors during construction and restoration. However, the lack of visitor access to these areas would be mitigated by the educational value of the restoration activities. Interpretive signs and exhibits will be placed at

the boundaries of the closure areas and in the visitors center. Following site restoration, the affected drainages will regain their once-pristine appearance, though high intensity storms over the initial years following completion of project activities could result in some degree of failure of restoration efforts. Access to and enjoyment of other portions of FLFO will be unaffected.

Long term moderate impacts would result from replacement of the existing hydrologic regime with a new, more natural hydrologic regime. New wetland and riparian communities and associated biotic communities would be established through re-vegetation and through natural processes in locations determined by the natural stream channel geometry and hydrologic patterns. Visitors to FLFO will experience a restored natural landscape. These long term impacts are consistent with the purpose and need of the project and are generally beneficial in nature.

Degree of effect on public health or safety:
As stated previously, there will be some temporary disturbance to visitor use and experience associated with the dam removals and these impacts will be adverse, short-term, and of minor intensity. Work areas will be closed to FLFO visitors as a matter of public safety, but access to and enjoyment of other portions of FLFO will be unaffected. Visitor experience in the restored drainages will be of a more natural landscape; impacts will be long term, beneficial, of a moderate intensity.

The greater Pikes Peak region including Teller County has experienced periodic floods over the past century. The original purpose of the earthen dams was erosion control and water retention and diversion in association with ranching and farming practices at the time of their construction. The NPS contracted a study performed in 1997 to inventory and evaluate the forty-four identified earthen dams at FLFO to assess the benefits, impacts, and relative likelihood of successful disturbed lands restoration. The earthen dams were inventoried and evaluated through a decision support model developed to rank each earthen dam for removal based on effects on wetlands, hydrologic alteration, size, vegetation alteration, accessibility to equipment, erosion concerns (past, present, and predicted), use as a wildlife resource and critical habitat concerns, aesthetics, and other potential benefits such as fire suppression water source and flood control. In all scenarios, the seven earthen dams were ranked near the top of the decision support model for removal because they had the fewest benefits, greatest impacts, and greatest likelihood of restoration success.

The seven earthen dams do not provide any significant flood control benefits as they are not of the size and design to do so (comprised of loose sand and gravel, sloughy and leaking, no principal and emergency spillways). Average precipitation rates at FLFO (relatively dry, twelve to sixteen inches of rain annually) along with the presence of numerous additional dams downstream on FLFO lands, upstream on FLFO lands, and further upstream on private lands preclude the concern for routine flooding. Should FLFO experience extreme rainfall and a major flood event, the earthen dams would most likely fail because of their small size and/or lack of structural integrity, and any future floods of sufficient size to cause impacts offsite and to downstream neighbors would also be large enough to cause dam failure that would exacerbate those impacts.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas: There were no impacts identified to historic or cultural resources, park lands, prime farmlands, wild and scenic rivers, or ecologically critical areas in the work areas or the geographic area during either preparation of the EA or the public review period associated with the preferred alternative. Impacts and mitigation relative to wetlands associated with the preferred alternative were previously described.

Degree to which effects on the quality of the human environment are likely to be highly controversial:

There were no highly controversial effects identified during either preparation of the EA or the public review period associated with the preferred alternative.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks: There were no highly uncertain, unique or unknown risks identified during either preparation of the EA or the public review period associated with the preferred alternative.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration: The preferred alternative neither establishes a National Park Service precedent for future actions with significant effects nor represents a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts: Impacts of the preferred alternative identified in the EA were short term, adverse, and of minor to moderate intensity and included vegetation, soils and topography, floodplains and wetlands, wildlife, and visitor use and experience. The NPS is committed to carrying out the trust responsibilities related to park resources at FLFO under the provisions of the 1916 OA, the 1969 authorizing legislation, the 1970 GAA, the NPS Management Policies, and the Strategic Plan as guided by the 1993 GPRA. The preferred alternative is harmonious with the specific long-term goals the NPS will achieve through 2005 in pursuit of the mission of FLFO as outlined in FLFO's Strategic Plan. The long-term goals include the commitment to preserve FLFO resources, to provide for the public enjoyment and visitor experience at FLFO, to strengthen and preserve natural and cultural resources and enhance recreational opportunities, and to ensure the organizational effectiveness of FLFO. As described in the EA, the long-term, beneficial impacts of the preferred alternative on FLFO resources, in conjunction with other past, present, and foreseeable future actions per FLFO's Strategic Plan, will result in cumulative impacts that are beneficial and of minor to moderate intensity.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources: There were no adverse impacts identified to districts, sites, highways, structures, or objects listed on National Register of Historic Places or significant scientific, cultural, or historical resources during either preparation of the EA or the public review period associated with the preferred alternative.

In accordance with Section 106 of the NHPA, the State Historic Preservation Office (SHPO) was consulted and in a memorandum signed July 19, 2001 the SHPO concurred with the NPS finding that no historic properties would be affected. A signed copy of the SHPO concurrence is on file at the park.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat: As described in the EA, no federally listed candidate, threatened, or endangered species, or its critical habitat, and no species of special concern are known to inhabit the vicinity of the project areas.

Through consultations with the United States Fish and Wildlife Service (USFWS), FLFO staff determined that there are no listed threatened, endangered, or rare species, species of concern, or designated critical habitat within the areas of work for the preferred alternative. Record of the USFWS consultations is on file at the park.

Whether the action threatens a violation of federal, state, or local environmental protection law: The preferred alternative violates no federal, state, or local environmental protection laws.

In addition to reviewing the list of significance criteria, a determination if the preferred alternative would result in an impairment of park resources was considered. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the National Park Service the management discretion to allow certain impacts within parks, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. An impact to any park resource or value may constitute an impairment.

FLFO determined that implementation of the preferred alternative will not constitute an impairment of the park's resources and values. This conclusion is based on a thorough analysis of the impacts described in the EA, the agency and public comments received, and the professional judgement of the decision-maker in accordance with the National Park Service's Management Policies, 2001 (December 27, 2000). As described in the EA, implementation of the preferred alternative will not result in major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of FLFO; (2) key to the natural or cultural integrity of FLFO or to opportunities for enjoyment of FLFO; or (3) identified as a goal in the FLFO's general management plan or other relevant National Park Service planning documents.

PUBLIC INVOLVEMENT

The interdisciplinary team (IDT) approach was used to identify issues or environmental problems that needed to be addressed in considering possible alternatives. In accordance with CEQ regulations, issues affecting this project were defined by the IDT, which was comprised of NPS specialists; personnel from other federal, state, and local agencies; contractors; and the general public.

The following is the history of public involvement:

- Draft EA [dated August 2000] made available to the public in September 2000.
- On-site meeting with interested public on September 27, 2000.
- Draft EA on public review for thirty days; comment period was September 20, 2000 through October 4, 2000, but comments were taken through February 28, 2001.
- Off-site meeting with interested public and technical experts on January 24, 2001.
- Scoping letter [dated June 2, 2001] for revised EA distributed to the individuals, agencies, and organizations on the park's mailing list on June 4, 2001.
- On-site meeting with interested public on July 10, 2001.
- Final EA announcement and public comment request letter distributed to the individuals, agencies, and organizations on the park's mailing list on August 7, 2001.
- Final EA [dated August 7, 2001] made available to the public on August 10, 2001.

- Final EA on public review for thirty days; comment period was August 10, 2001 through September 8, 2001, but comments were taken through September 14, 2001.

Copies of the EA were available on the FLFO Internet site and in local libraries. Press releases (August 7, 2001 letter) were issued to the interested public on the FLFO mailing list and to local media informing the public of the availability of the document. The final EA was on public review from August 10, 2001 through September 14, 2001. During the extended review and comment period, a total of three comments were received from the interested public via e-mail and regular mail. All three letters were from individual residents from the State of Colorado residing in the region of FLFO. Comment letters are kept on file at FLFO and are available to the public upon request.

The comments received were screened to determine whether any new issues, reasonable alternatives, potential for significant impacts, or mitigation measures were suggested. The comments received did not identify any new issues, alternatives, or mitigation measures, nor did they correct or add substantially to the facts presented in or increase the degree of impact described in the EA. Comments in favor of or against the proposed action or alternatives, or comments that only agree or disagree with NPS policy, are not considered substantive. The comments received resulted in no text changes to the EA. However, NPS felt each comment received deserved clarification or additional explanation, although these clarifications do not affect the analysis presented in the EA or alter the decision.

Therefore, a summary of the received comments with NPS responses is provided in the Errata Sheets

attached to this FONSI. The FONSI and Errata Sheets will be sent to everyone who commented on the EA.

CONCLUSION

The preferred alternative does not constitute an action that normally requires preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur are short term and minor or moderate in intensity. There are no significant impacts on public health, public safety, threatened or endangered species, historic properties either listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

Recommended: /S/ Jean H. Rodeck Dated: 10/9/01

Superintendent
Florissant Fossil Beds National Monument

Approved:  Dated: 10/10/01

Director, Intermountain Region

ERRATA SHEETS

Reference Document: Environmental Assessment for the Future Management of Seven Earthen Dams in Florissant Fossil Beds National Monument [dated August 7, 2001]

Public Comments and NPS Responses

The final EA was on public review from August 10, 2001 through September 14, 2001. During the extended review and comment period, a total of three comments were received from the interested public via e-mail and regular mail. All three letters were from individual residents from the State of Colorado residing in the region of FLFO. Comment letters are kept on file at FLFO and are available to the public upon request.

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Comments received are provided below by topic followed by a response from the NPS. The NPS places life, health, and safety concerns above all else when making decisions; NPS seeks to make decisions that will support the mission of preserving and protecting natural resources and processes within the units of the National Park System.

GENERAL COMMENTS

Comment #1: *"Basically, the Fossil Beds wants to remove some old dams because they feel they are no longer needed since the area is well managed and soil erosion has been greatly reduced, and because their management goals would like to return the facility to a type of "pre-European settlement" condition."*

Comment #2: *We as a group oppose removing for the sake of removing in order to bring the land back to its original state."*

Response: The intent behind the proposal to remove the seven earthen dams is rooted in the duty of NPS to achieve the goals to sustain the mission of FLFO including the commitment that natural and cultural resources and associated values at FLFO are protected, restored, and maintained in good condition and managed within their broader ecosystem and cultural context. This commitment includes the concept of the perpetuation of natural processes,

and addresses threats to natural landscapes at FLFO. As such, one stated goal for the NPS at FLFO includes the restoration of disturbed lands and thus the restoration of ecosystems, natural processes, natural landscapes, and scenic beauty. The seven earthen dams are considered "disturbed lands", having been disturbed by previous land management and use practices (ranching and farming) prior to the establishment of the Monument in 1969. Their removal involves the objective of re-establishing natural hydrologic and geomorphic processes, restoring natural land contours, reclaiming and re-vegetating disturbed areas, and re-establishing wetland structure, function, and hydrology.

Comment #3: *"Out of the 3 sites the group visited, only one (dam) can probably be removed with little environmental disturbance, and none of the 3 have maintenance problems that require such drastic action."*

Response: To achieve the goal relative to disturbed lands restoration, the NPS contracted a study performed in 1997 to inventory and evaluate the forty-four identified earthen dams at FLFO to assess the benefits, impacts, and relative likelihood of successful disturbed lands restoration. In all the ranking scenarios [based on effects on wetlands, hydrologic alteration, size, vegetation alteration, accessibility to equipment, erosion concerns (past, present, and predicted), use as a wildlife resource and critical habitat concerns, aesthetics, and other potential benefits such as fire suppression water source and flood control], these seven earthen dams were ranked near the top of the decision support model for removal because they had the fewest benefits, greatest impacts, and greatest likelihood of restoration success.

The selected alternative's action relative to these dams is not considered "drastic". These dams are aged and have not been actively maintained and most are in various stages of deterioration. The resultant unnatural concentration of water energy at these dams has lead to the creation and migration of erosional features such as headcuts toward the dams and, as most of the dams are of a size and capacity to pond a significant amount of water and as the dams continue to age and deteriorate, the risk of a breach increases both because of a increasing risk of structural failure and upward migration of erosional features. These conditions have already led to some earthen dam failures at FLFO. The probability of additional earthen dam failures increases with time, raising concern regarding failures releasing ponded water in a single flood event in a concentrated spillway or other channel into the drainage area and extensive erosion and subsequent sediment deposition in downstream wetlands.

Dam removal and restoration activities will result in some environmental disturbance, however, all relevant, reasonable, and practical mitigation measures that could improve the selected alternative's action and avoid, minimize, or eliminate environmental harm were integrated into the alternative where it was feasible to do so. The estimated costs for the implementation of the mitigation measures integral to this alternative were included in the overall cost estimate for the alternative; therefore, the mitigation measures have been adopted and will be implemented.

Comment #4: *"In my opinion, the old adage, 'if it ain't broke, don't fix it', applies here……In conclusion, in my professional opinion, removal of any of the dams is ill advised."*

Response: These dams are aged and have not been actively maintained and most are in various stages of deterioration. The dams result in constraints on hydrology, erosional and depositional processes, and wetland functions as well as the persistence of altered plant communities and atypical habitats. Following issue and impact evaluation in the EA, NPS has selected the dam removal/disturbed lands restoration alternative [with implementation of mitigation measures to minimize impacts to park resources] in order to carry out the mission of FLFO and fulfill the trust responsibilities related to park resources at FLFO. (Note: with regards to the professional opinion reference, this comment was received from an employee at the Natural Resources Conservation District; NPS has confirmed with this employee's supervisor that the opinion is of the individual and not of the District.)

Comment #5: *"The land is no longer a cattle ranch but a national monument and requires management to that end. Namely, a natural environment. Therefore, one must look at the situation in the context of the time."*

Response: As discussed in the EA, the original purpose of the earthen dams was erosion control and water retention and diversion in association with land management and use practices (ranching and farming) at the time of their construction. However, since the establishment of the Monument in 1969, land management and use practices are now based on FLFO's mission and NPS policies to preserve, research, and interpret the paleontologic and geologic resources, to preserve the other natural resources for public knowledge and enjoyment, and to restore native communities and natural processes.

WETLANDS

Comment #6: *"One site is providing wetland values and aside from some minor spillway maintenance, is viable from a long term point of view. To destroy wetlands to improve NPS aesthetics is a poor tradeoff, especially when the cost of such dam removal is considered."*

Comment #7: *"Restoration of the sites to near their original contours will promote a more natural scene as well as restore ecologically beneficial wetlands."*

Response: The criteria used in selecting the alternative included the degree of potential for each alternative relative to the following: meet FLFO goals and objectives and resolve the need for action, protect and minimize impacts to FLFO resources, relate to other FLFO planning projects, result in no potential conflicts with other environmental laws/policies, achieve consistency with NEPA Sections 101 and 102(1). Topics of concern identified during scoping and evaluated in the EA included floodplains and wetlands, vegetation, soils, wildlife, and visitor experience. Though aesthetics/visitor experience was a consideration, it was the least weighted for NPS in the EA evaluation.

During the EA preparation process, the NPS performed consultation with the U.S. Army Corps of Engineers (USACE) relative to wetlands and the proposed alternatives. NPS obtained approval/acknowledgement from the USACE in a letter dated July 24, 2001 that, under the Department of the Army Nationwide Permit No. 27, authorized the removal of the dams and

subsequent wetland communities restoration.

Naturally functioning wetlands, floodplains, and riparian areas are one of the most valuable natural resources at FLFO not only due to their intrinsic value but also because of the area's relatively dry local climate. The existence of the earthen dams and subsequent alteration of natural hydrologic and geomorphic processes has impacted the natural structure and function of wetland ecology and riparian areas that exists in many of the drainages and poses a sedimentation concern to downstream wetlands. The selected alternative's reclamation efforts would re-establish natural hydrology, erosional and depositional processes, and wetland functions to the highly altered/disturbed landscapes at and downstream of the seven dams. If appropriate, salvage and storage of wetland topsoil will occur, and any soil removed from areas currently under the impoundment areas of the dams will be salvaged and used as a wetland topsoil layer for any required reclamation of the wetland/wet-meadow complex to take advantage of the soil's rich and diverse seed bank of native wetland species. If necessary, the wetland community growing in the ditch associated with Dam#32 would be carefully removed, including the topsoil down to about 6 to 18 inches, and stored for later use as transplant material in the reclaimed wetland area(s).

EROSION AND FLOODING

Comment #8: *"…a review of the 1938 and later aerial photographs of the Monument and surrounding area indicates that severe watershed erosion was occurring before the installation of the numerous erosion control and livestock water dams there. Other factors such as overgrazing probably contributed to such erosion as well, but the end result of the installation of the dams is that they successfully reduced and controlled this erosion to the extent that they have been too successful, which can give the impression that they can now be removed. This is a fallacious argument; periodic damaging floods that this region has experienced can reoccur which will cause greater damage if such dams are removed. The nature of our granitic and shallow soils are such that any disturbance that reduces ground cover can result in sheet and rill erosion which rapidly leads to gully erosion."*

Comment #9: *"These dams have kept the residents of Teller county from floods, erosion, and has provided fire suppression among other benefits."*

Comment #10: *"The area is comprised of fragile watersheds, and can't have too much protection from the constant threat of catastrophic floods, such as occurred in the 1920s, 1940s, 1965, 1985, and the late 1990s."*

Comment #11: *"The spending of more federal dollars to remove valuable dams, with the specter of possible future flood damage that would create the need for re-installing such dams again, is very hard to justify. Plus such floods can cause negative downstream and offsite impacts – the Park Service could be viewed as something less that a "good neighbor" under such a scenario."*

Comment #12: *"In August/September 2000, a group of Ranchers and Cattlemen met with the representative of the Florissant Fossil Beds, Chief Tom Ulrich, and discussed the feasibility of removing dams that have done there job for 35 years. We informed Chief Ulrich that we were against*

the removal of dams for "The Restoration of Wetlands by removing Earthen Dams" due to the fact that these Dams serve a very important flood protection for the residents of Teller County."

Comment #13: *"I do not feel flood control is a viable reason to maintain the dams as the area in question is not sufficiently large enough to cause catastrophic flooding. I say this after having lived here 26 years without seeing such."*

Response: The original purpose of the earthen dams was erosion control and water retention and diversion in association with ranching and farming practices at the time of their construction. The dams were successful in their original purpose to reduce and control the erosion that was taking place. Though three of the seven earthen dams are currently retaining water behind their structures, the unnaturally ponded and sometimes stagnant water is not considered to be of critical significance as habitat, or a fire suppression source, as other water sources are available nearby.

The greater Pikes Peak region including Teller County has experienced periodic floods over the past century, which have resulted in sheet, rill, and gully erosion in regional watersheds. The lands comprising FLFO have experienced these events though not of a sufficiently large enough nature to be considered "catastrophic". The seven earthen dams do not provide any significant flood control benefits as they are not of the size and design to do so (comprised of loose sand and gravel, sloughy and leaking, no principal and emergency spillways). Average precipitation rates at FLFO (relatively dry, twelve to sixteen inches of rain annually) along with the presence of additional dams downstream on FLFO lands, upstream on FLFO lands, and further upstream on private lands preclude the concern for routine flooding. Should FLFO experience extreme rainfall and a major or "catastrophic" flood event, the earthen dams would most likely fail because of their small size and/or lack of structural integrity, and any future floods of sufficient size to cause impacts offsite and to downstream neighbors would also be large enough to cause dam failure that would exacerbate those impacts. Since the establishment of the Monument in 1969, land management and use practices are now based on FLFO's mission and NPS policies. NPS studied removal of the dams not because they have been successful as erosion control or flooding/watershed protection devices, rather in order to carry out the mission of FLFO and fulfill the trust responsibilities related to park resources at FLFO. Mitigation measures and restoration efforts associated with dam removal will minimize impacts to soils and prevent substantial erosion during and following the activity, though NPS acknowledges that high intensity storms over the initial years following completion of project activities could result in some degree of failure of restoration efforts. Ultimately, in line with its mission and NPS policies, NPS seeks to remove these structures at FLFO which have altered natural geomorphic processes, have resulted in unnatural patterns and accelerated levels of erosion and have impacted the natural structure and function of natural resources at the Monument.